PATENT

Serial/Patent No. 09/785,026 File No. 57139.5045 Date Mailed 5.14.04 By: SRN/BC1

Title: BICYCLE CONTROL DEVICE

Client Name: SHIMANO INC. Customer No. 24,574

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PATENT
57139-5045

IN THE PATENT AND TRADEMARK OFFICE

In Re Patent Application Of: Yoshihide ITEYA Serial No.: 09/785,026 Filing Date: February 15, 2001 For: BICYCLE CONTROL DEVICE	Group Art Unit: 3682 Examiner: Julie K. Smith **CERTIFICATE OF EXPRESS MAILING** I hereby certify that this correspondence and identified enclosures are being deposited with the U.S. Postal Service "Express Mail Post Office to Addressee" service under 37 C.F.R. § 1.10 and is addressed to: Mail Stop Appeal Brief, Commissioner for Patents, PO Box 1450, Alexandria, VA 22313-1450 on May 14, 2004 Express Mail Label No. EV272829469US by Bobbie-Jean Corbin Bobbie-Jean Corbin

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Dear Sir/Madam:

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Respectfully submitted,

Date: 5.13.2004

ROD S. BERMAN
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JEFFER, MANGELS, BUTLER & MARMARO LLP
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☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT ($)330

Complete If Known	
Application Number	09/785,026
Filing Date	February 15, 2001
First Named Inventor	Yoshihide ITEYA
Examiner Name	Julie K. Smith
Art Unit	3682
Attorney Docket No.	57139-5045

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Independent Claims	-3** =	-3	X =	0
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1202	18	2202	9	Claims in excess of 20
1201	86	2201	43	Independent claims in excess of 3
1203	290	2203	145	Multiple dependent claim, if not paid
1204	86	2204	43	** Reissue independent claims over original patent
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1053	130	1053	130	Non-English specification	
1812	2,520	1812	2,520	For filing a request for *ex parte* reexamination	
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
1251	110	2251	55	Extension for reply within first month	
1252	420	2252	210	Extension for reply within second month	
1253	950	2253	475	Extension for reply within third month	
1254	1,480	2254	740	Extension for reply within fourth month	
1255	2,010	2255	1,005	Extension for reply within fifth month	
1401	330	2401	165	Notice of Appeal	330
1402	330	2402	165	Filing a brief in support of an appeal	
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1452	110	2452	55	Petition to revive - unavoidable	
1453	1,330	2453	665	Petition to revive - unintentional	
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1810	770	2810	385	For each additional invention to be examined (37 CFR 1.129(b))	
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SUBMITTED BY		Regisration No. (Attorney/Agent)	31,483	Telephone	(310) 203-8080
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of: Yoshihide ITEYA Serial No.: 09/785,026 Filed: February 15, 2001 For: **BICYCLE CONTROL DEVICE**	Art Unit: 3682 Examiner: Julie K. Smith

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by Bobbie-Jean Corbin
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APPEAL BRIEF

This Appeal Brief is being filed in triplicate together with a check in the amount of $330.00 to cover the filing fee. If this fee is deemed insufficient, authorization is hereby given to charge any deficiency (or credit any balance) to the undersigned deposit account 10-0440.

This is an appeal from the decision dated November 30, 2003, finally rejecting claims 1, 6, 9-11, 13, 17, 20, 23-25 and 27 under 35 U.S.C. § 103(a) as being unpatentable over Nagano, U.S. Patent No. 4,489,307 ("Nagano"), in view of Miike, U.S. Patent No. 5,345,051 ("Miike"); finally rejecting claims 3-5 and 14-16 under 35 U.S.C. § 103(a) as being unpatentable over Nagano in view of Miike and further in view of Abe, U.S. Patent No. 6,073,730 ("Abe"); finally rejecting claims 7 and 21 under 35 U.S.C. § 103(a) as being unpatentable over Nagano in

view of Miike and further in view of Seimitsu, Japanese Patent Application JP 20026893 ("Seimitsu"); finally rejecting claims 8-9 and 22 under 35 U.S.C. § 103(a) as being unpatentable over Nagano in view of Miike and further in view of Miyoshi et al., Japanese Patent Application JP 04048521 ("Miyoshi"); finally rejecting claims 12 and 26 under 35 U.S.C. § 103(a) as being unpatentable over Nagano in view of Miike and further in view of Hill et al., U.S. Patent No. 5,745,438 ("Hill"); and finally rejecting claims 18 and 19 under 35 U.S.C. § 103(a) as being unpatentable over Nagano in view of Miike and further in view of Iteya, U.S. Patent No. 6,331,089 ("Iteya") .

REAL PARTY IN INTEREST

The real party in interest is Shimano Inc., the assignee of the subject application.

RELATED APPEALS AND INTERFERENCES

None.

STATUS OF CLAIMS

Claim 2 has been canceled. Claims 1 and 3-27 remain pending and are the subject of this appeal.

STATUS OF AMENDMENTS

Claim 20 was amended following final rejection. The amendment has been entered by the Examiner.

SUMMARY OF THE INVENTION

Modern bicycles frequently include a number of control devices that enable a rider to optimize his or her ride. Typical control devices include brake control devices, shift control devices, and combinations of the two. In addition, modern bicycles frequently include cycle computers that provide riders with information about their ride on computer screens. It is desirable to locate such computer screens directly in front of the rider, but locate the control device away from the computer, near the bicycle's handle grips. This minimizes the need for the

rider to move his or her hands between the control device and the control switch, which can impair the ability to steer and control the bicycle. In addition to the foregoing, it is desirable to provide a control switch assembly having a structure and configuration that allow for relatively simple and inexpensive installation. Thus, a need has arisen for a bicycle control switch which addresses these concerns (page 1, line 16-page 2, line18 and page 6, lines 1-8).

The present invention fulfills these needs. Without limiting the scope of the present invention in anyway, the independent claims on appeal are summarized as follows: Claim 1 is directed to a bicycle switch mounting assembly comprising a bicycle control device having a top surface that defines a recess in the device. The recess has a bottom wall and a side wall which are not printed circuit boards, and the side wall is connected to the bottom wall. The claimed mounting assembly further comprises an operation control button with an outer periphery having a shape. The operation control button is movable within the recess, and the recess has a shape which conforms to the shape of the outer periphery of the operation control button.

Independent claims 3 and 4 are directed to a bicycle shift mounting assembly for holding a computer control switch. Claim 3 recites a bicycle brake control device, and claim 4 recites a bicycle shift control device. The respective control devices comprise a top surface defining a recess that is dimensioned to receive an operation control button. The recess also has a shape conforming to the outer periphery of the operation control button.

Independent claim 5 is directed to a control device for holding a computer switch. The control device comprises an integrated brake and shift control device and an operation control button. A casing having a recess encompasses the brake and shift control devices. The recess is dimensioned to receive the computer control switch and has a shape conforming to the shape of the outer periphery of the operation control button.

Independent claim 6 is directed to a bicycle switch assembly. The assembly comprises a bicycle control device having a casing that defines a switch mounting recess. A

control switch comprising an operation control button is mounted in the switch mounting recess, and the recess has a shape conforming to the shape of the outer periphery of the operation control button. Similarly, independent claim 13 is directed to a bicycle control assembly for holding a control switch for a computer. The control switch has an operation control button. The assembly comprises a control device having a casing that defines a switch mounting recess. The recess is dimensioned to receive the control switch and has a shape conforming to the shape of the outer periphery of the control button.

Claim 18 is directed to a handlebar assembly controllable by the hand of a bicycle rider. The assembly comprises a handlebar having an end to which a hand grip is attached. A control device is attached to the handlebar proximal the hand grip such that the rider's hand can reach the device while remaining on the hand grip. The control device defines a switch mounting recess in which a control switch is mounted. A cycle computer is attached to the handlebar separately from the control device and is electrically connected to the control switch. The control switch comprises an operation control button, and the recess has a shape conforming to the outer periphery of the control button.

A preferred embodiment of a control device as described by the above claims is shown in Figures 1a, 1b and 2 of the present application. According to the embodiment, a combined bicycle brake and shifting control device 20 is provided which contains a switch mounting recess 42 defined in a surface of the control device 20. See page 4, line 21-29; page 6, line 17-27. The recess 42 is dimensioned to receive a control switch 40 which is mounted in the recess 42. See Figures 3-7.

ISSUES

1. Is the subject matter of claims 1, 6, 9-11, 13, 17, 20, 23-25 and 27 obvious under 35 U.S.C. § 103(a) over Nagano in view of Miike?

2. Is the subject matter of claims 3-5 and 14-16 obvious under 35 U.S.C. § 103(a) over Nagano in view of Miike and further in view of Abe?

3. Is the subject matter of claims 7 and 21 obvious under 35 U.S.C. § 103(a) over Nagano in view of Miike and further in view of Seimitsu?

4. Is the subject matter of claims 8-9 and 22 obvious under 35 U.S.C. § 103(a) over Nagano in view of Miike and further in view of Miyoshi?

5. Is the subject matter of claims 12 and 26 obvious under 35 U.S.C. § 103(a) over Nagano in view of Miike and further in view of Hill?

6. Is the subject matter of claims 18 and 19 obvious under 35 U.S.C. § 103(a) over Nagano in view of Miike and further in view of Iteya?

GROUPING OF THE CLAIMS

The grouping of the claims is as follows:

Claims 1, 6, 9, 10, 13, 20, 23 and 24 (bicycle control device having a recess dimensioned to receive a control switch mounted in the recess);

Claims 3-5 and 14-16 (bicycle shift and control devices having a recess and a control button mounted in the recess);

Claims 7, 21 (control switch attached in recess by an adhesive);

Claims 8, 22 (control button with elastic attachment arm press-fitted into hole in recess);

Claims 11 and 25 (retention ring fastened to the bicycle control device casing and to the control device's top surface, respectively);

Claims 12, 26 (retention ring threadingly engaged with recess);

Claim 17 (cable mounting recess defined in casing and in communication with switch mounting recess);

Claim 18 (bicycle control device attached to handlebar proximate handgrip and having recess defined therein, wherein a control switch is mounted in the recess); and

Claim 19 (cable mounting recess defined in control device).

The claims do not stand or fall together. Each of the foregoing groupings will be argued separately below. Nevertheless, Applicant is not conceding that the features of the dependent claims are necessary to support patentability. Instead, the claim groupings are being separately argued in order to show that the claims include several features that alone or in combination distinguish the present invention from the prior art.

ARGUMENT

The Examiner has not asserted that any references anticipate the claims. Instead, she has selectively extracted the claim features from numerous combinations of references. However, the combined references do not disclose the present invention, but instead, require extensive alteration to obtain it. Moreover, many of the references disclose features that are inconsistent with the present invention. Yet, the Examiner has disregarded such inconsistent features in order to reconstruct the present invention from the prior art. However, this reconstruction is not motivated or suggested by any prior art teaching. "When prior art references require selective combination . . . to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gleaned from the invention itself." Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051 (Fed. Cir. 1988). As a result, the obviousness rejections are improper and should be withdrawn.

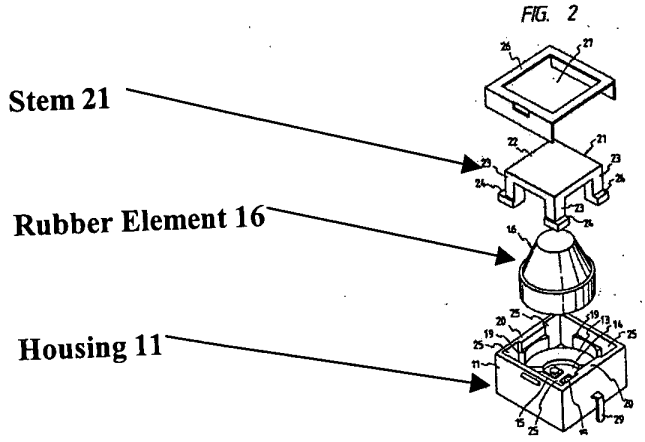
I. The Subject Matter of Claims 1, 6, 9-11, 13, 17, 20, 23-25 and 27 Is Not Obvious Under 35 U.S.C. § 103(a) Over Nagano In View of Miike

The Examiner asserts that claims 1, 6, 9-11, 13, 17, 20, 23-25 and 27 are obvious over the combination of Nagano and Miike. However, the combined references fail to teach the limitations of the rejected claims. In addition, the Examiner has not identified any motivation or suggestion in the prior art for combining Nagano and Miike.

A. Miike and Nagano Do Not Teach Or Suggest The Claimed Invention

Claim 1 is directed to a bicycle switch mounting assembly for holding a computer control switch. It recites a bicycle control device having a top surface that defines a recess in the device. It further recites an operation control button that is movable within the recess. The recess has a shape that conforms to the outer periphery of the operation control button and also has side and bottom walls that are not printed circuit boards. The side wall is connected to the bottom wall. Similarly, claims 6 and 10 recite a bicycle control device having a casing, wherein the casing defines a switch mounting recess in which an operation control button is movable. The switch mounting recess has a shape that conforms to the button's outer periphery. Claim 13 is directed to a bicycle control assembly for holding a control switch for a computer and is phrased similarly.

The rejected claims recite a structural relationship between a bicycle control device and a control button or switch which is neither suggested nor disclosed by Nagano or Miike--either alone or in combination. Miike discloses a self-contained push button switch apparatus, but does not disclose any applications for the switch, let alone those involving bicycles. Figure 2 from Miike shows the structure of the self-contained switch apparatus:



Miike Fig. 2

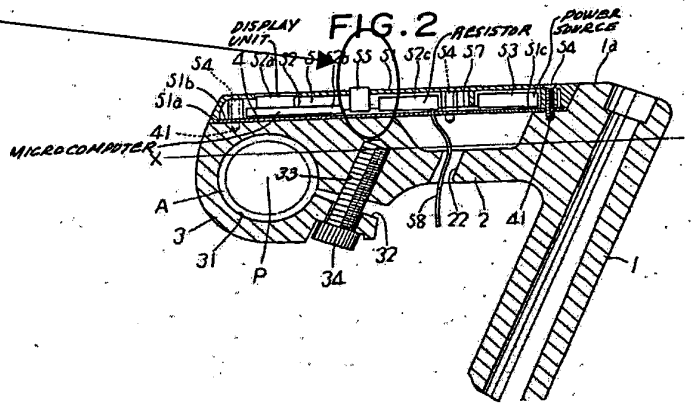
Miike discloses a self-contained switch having a housing 11 in which a rubber element 16 having a movable contact 17 (not shown) is deformed to engage contacts 15 by depressing stem 21.

Nagano discloses a bicycle handle stem having a computer display unit. The Examiner characterizes Nagano as "having a switch (55, 56) mounted in a recess . . . ." Office Action, dated 11/20/03 ("11/20/03 O.A.") at 2. However, Nagano does not disclose a switch mounted in a recess. Instead, Nagano's switches 55 and 56 are disposed in holes through a box 51, as can be seen in Nagano Figure 2:

Nagano Fig. 2

Nagano's switches 55 and 56 (not shown) are disposed in box 51. The box is open at the bottom.

To combine Miike with Nagano, Miike's housing 11 would have to be attached to Nagano's box 51. However, the "recess" would not be defined in the top surface of the control device



As is evident from Figure 2, the box 51 is "open at the bottom." Nagano at 2:54. The top surface of the box has a hole, not the claimed recess, and the box is the same size as the mounting surface 4 of the disclosed handle stem. Nagano at 3:52-56. Electric parts 52 are housed in the space within the box and the mounting surface along with switches 55 and 56. Thus, neither switch is disposed in a recess, much less one that conforms to the shape of the outer periphery of an operation control button movable within the recess.

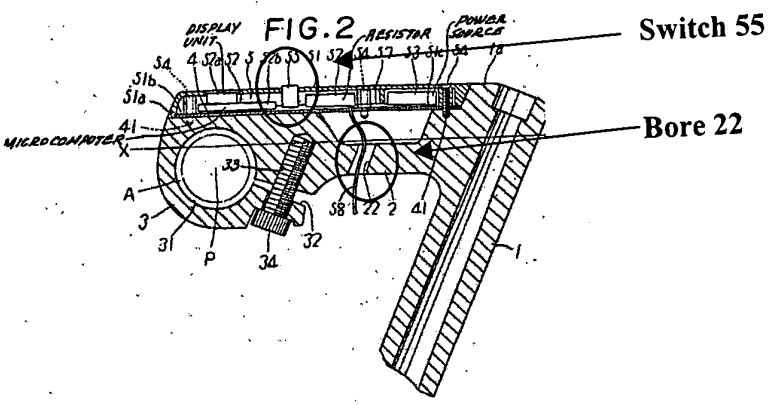
The claimed invention cannot be obtained without extensively altering Nagano and Miike. Claim 1 requires a recess defined in the top surface of a bicycle control device. In reciting the structure of the recess, the claim states that the recess has a bottom wall and a side wall connected to the bottom wall. If Miike's self-contained push button switch were combined with the Nagano device, the resulting structure would not include a recess defined in the top

surface as claimed because the side and bottom walls of the Miike button housing would be separate and distinct from the top surface of the control device, not defined in the top surface. In addition, some means--which is not disclosed by either reference--would have to be provided for connecting the Miike switch to the Nagano device. Claims 6 and 13 recite a similar structural relationship between the structure of a control device and a control button and are also allowable over the combination of Miike and Nagano. Claims 20 and 24 are method claims that recite similar limitations and are similarly allowable. Thus, the combined references do not teach all of the claim limitations and do not render the claims obvious. See Litton Systems, Inc. v. Honeywell, Inc., 87 F.3d 1559, 1569 (Fed. Cir. 1996) (rejecting defendants' obviousness challenge on the grounds that "[t]he prior art simply does not contain many limitations in the claimed method").

Claim 17 depends from claim 13 and further recites a cable mounting recess defined in the casing of a bicycle control assembly. As claimed, the cable mounting recess extends from and is in communication with the switch mounting recess. According to the Examiner, Nagano's bore 22 constitutes a cable mounting recess 22 which extends from a switch mounting recess. Assuming that Nagano does disclose a cable mounting recess, however, were the Examiner to combine Miike and Nagano in the manner suggested, the cable mounting recess would not be in communication with a switch mounting recess, nor would it extend from it. As revealed by Nagano Figure 2, Nagano's bore 22 extends into box 51 to connect to resistor 52c away from the opening in box 51 which holds the switch 55. See Nagano at 2:64-68.

Nagano Fig. 2

Nagano's bore 22 is a conduit for wire 58 which connects resistor 52c away from the switch 55.



If Miike's self contained push button switch were added to Nagano's box 51, Nagano's bore 22 would be isolated from it and would neither be in communication with Miike's "recess" nor extend from it. Thus, the combined references do not disclose or suggest the limitations of claim 17. If anything, the Examiner's attempt to assert the combination of Miike and Nagano against claim 17 underscores the fact Nagano and Miike cannot be combined to obtain the control device and control switch (or button) configuration recited in claims 1, 6 and 13.

Claims 11 and 25 respectively recite a retention ring fastened to the casing and top surface of the claimed bicycle control device. The Examiner asserts that Miike's frame 26 constitutes a retention ring 26 fastened to a housing. Notwithstanding that assertion, the combination of Nagano and Miike fails to disclose a retention ring fastened to the casing of a bicycle control device. If the Miike switch were combined with the Nagano device, the frame 26 would not be fastened to the casing of a control device, it would be fastened to Miike's self contained switch case 11. Thus, the references do not teach all of the claim limitations and cannot be combined to obtain the claimed invention.

B. The Examiner Has Failed to Provide a Motivation or Suggestion in the Prior Art for Combining Miike and Nagano

"When an obviousness determination is based on multiple prior art references, there must be a showing of some teaching, suggestion, or reason to combine the references." Winner International Royalty Corp. v. Wang, 202 F.3d 1340, 1348 (Fed. Cir. 2000) (citations omitted). See also In re Stencel, 828 F.2d 751, 755 (Fed. Cir. 1987)("Nor is obviousness established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion that the combination be made"). The Examiner has failed to identify a motivation or suggestion for combining Miike and Nagano.

For the reasons provided above, the "suggested combination of references would require a substantial reconstruction and redesign of the elements shown in [the prior art] as well as a change in the basic principles under which [the prior art] construction was designed to operate." Application of Ratti, 270 F.2d 810, 813 (C.C.P.A. 1959). As a result, combining the references to reject the claims as obvious is improper. Id. According to the Examiner, "it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the bicycle control of Nagano with the switch assembly of Miike, to provide a more secure housing for the switch, preventing rattling and vibration within the switch assembly." 11/20/03 O.A. at 3. However, neither Miike nor Nagano suggest how a self-contained switch such as Miike's switch could be attached to the Nagano assembly. If anything, incorporation of a self-contained switch would potentially increase rattling and vibration because the entire Miike switch housing would have to be separately attached to the Nagano control device. The present invention avoids this problem by defining the switch recess in the control device itself. Thus, even if the prior art recognized a need to reduce switch vibration, generally, there is no evidence that those of ordinary skill in the art would have recognized the modified combination of Miike and Nagano as a means of satisfying that need. "The mere fact that prior art could be modified in the manner proposed by the Examiner would not have made the modification obvious unless the

prior art suggested the desirability of the modification." Ex parte Dussaud, 7 USPQ2d 1818, 1820 (Bd. App. & Int'f 1988) (emphasis added).

II. The Subject Matter of Claims 3-5 and 14-16 Is Not Obvious Under 35 U.S.C. § 103(a) Over Nagano In View of Miike and Further in View of Abe

The Examiner has rejected claims 3-5 and 14-16 as obvious under 35 U.S.C. § 103(a) over Nagano in view of Miike and further in view of Abe. Claim 3 recites a bicycle shift control device having a top surface which defines a recess. It further recites that the recess has a bottom wall and a side wall connected to the bottom wall. According to the claim, an operation control button is movable within the recess, and the recess has a shape conforming to the shape of the outer periphery of the button. The claim further recites that the recess's bottom and side walls are not printed circuit boards. Claims 4 and 5 are similar, but instead recite the use of a bicycle brake control device and an integrated brake control device/shift control device, respectively. In like fashion, claims 14-16 depend from claim 13 and further specify the nature of the bicycle control device as a shift control device, a brake control device, and a combination of the two, respectively.

Nagano, Miike and Abe do not teach or suggest all of the claim limitations, and therefore, cannot be combined to obtain the claimed invention. In addition, the Examiner has again failed to make a *prima facie* showing of obviousness by failing to identify a motivation or suggestion in the prior art for combining the references.

A. Nagano, Miike and Abe Do Not Teach or Suggest the Claimed Invention

The Examiner has applied the combination of Nagano and Miike in the same manner described above for claims 1, 6, 9-11, 13, 17, 20, 23-25 and 27. Unlike those claims, claims 3-5 and 14-16 recite particular types of control devices (e.g., brake control and shift

control devices). Recognizing that neither Nagano nor Miike address particular types of control devices, the Examiner has combined Abe with Nagano and Miike to reject claims 3-5 and 14-16.

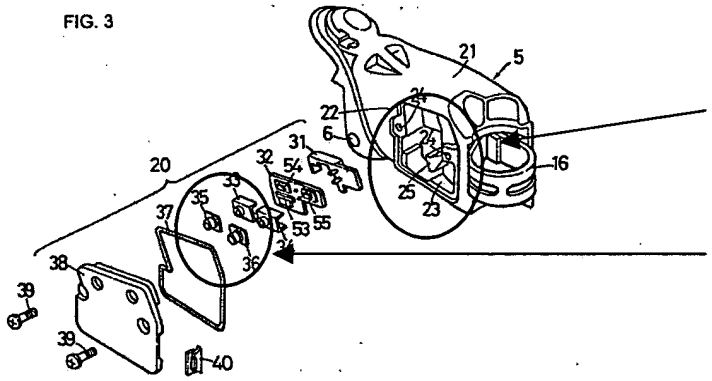
As with the first set of rejected claims, claims 3-5 and 14-16 recite a recess defined in the top surface or casing of a control device, wherein the recess has a bottom wall and side wall connected to the bottom wall. The recess has a shape conforming to the outer periphery of an operation control button that is movable within the recess. As explained previously, this structural relationship between a control device and a control button is neither suggested nor disclosed by Nagano or Miike--either alone or in combination. Thus, the combined references do not teach all of the claim limitations and cannot render the claim obvious. See Litton Systems, Inc. v. Honeywell, Inc., 87 F.3d 1559, 1569 (Fed. Cir. 1996).

B. The Combination of Abe with Nagano and Miike To Reject the Claimed Invention is Improper

Under Federal Circuit case law, Abe cannot properly be combined with Miike and Nagano to reject the claims. The Examiner has not identified a motivation or suggestion in the prior art for combining and modifying Abe, Miike and Nagano to obtain the claimed invention. "The absence of such a suggestion [to combine] is dispositive in an obviousness determination." Gambro Lundia AB v. Baxter Healthcare Corp., 110 F.3d 1573, 1579 (Fed. Cir. 1997).

According to the Examiner, "Abe teaches a control device having two control buttons for braking and shifting," and "it would have been obvious . . . to modify the control buttons of [Miike and Nagano] to be used to actuate shifting and braking . . . ." 11/20/03 O.A. at 3-4. First, the Examiner's contention is based on a mischaracterization the Abe reference. Abe does not disclose buttons for braking and shifting. Instead, Abe discloses a control lever 3 which can be used to brake and shift. Abe at 2:64-3:4. Push buttons 35 and 36 are used to switch modes on a display. See Abe at 3:23-26 and 3:61-4:15.

Second, the Examiner fails to demonstrate that one of ordinary skill in the art would have been motivated to combine the button and control device structures of Miike and Nagano with the dual braking/shifting device of Abe to obtain the claimed invention. Abe discloses a distinctly different control button configuration than either the claimed invention or Miike. Abe's two push buttons 35 and 36 are located within a single switch unit mounting recess 23. The switch unit mounting recess is "a deformed rectangle," Abe at 3:42, as shown in Abe Figure 3:



Abe Fig. 3

Abe's switch unit mounting recess 23 is a "deformed rectangle"

Push buttons 35 and 36 are part of the switch unit.

Thus, Abe suggests a push button and control device structure that is distinctly different from the claimed configuration of control device, recess and control button. It does not disclose a recess having shape conforming to the outer shape of a control button. Nevertheless, the Examiner asserts that one of ordinary skill in the art would have disregarded Abe's button and recess structure and replace it with the combination of Miike and Nagano. However, the Examiner does not point to any prior art teaching that would have led one of ordinary skill in the art to disregard Abe's button/control device configuration in favor of her reconstruction of the Miike/Nagano combination. It is insufficient to merely posit a benefit of combining the prior art references. A prior art suggestion or motivation for combining the references in the manner required to obtain the claimed invention must be shown and factually supported. See Ex parte Dussaud, 7 USPQ2d 1818, 1820 (Bd. App. & Int'f 1988).

In addition, the rejected claims recite that the side and bottom walls of the claimed recess are not printed circuit boards. The only embodiments disclosed in Abe are those that include a printed circuit board 32 in the switch unit mounting recess 23. Thus, the Examiner's rejection is further based on a reconstruction of Abe which discards the printed circuit board, notwithstanding the fact that there is no suggestion or motivation in the prior art for doing so. Thus, the Examiner's rejection requires a reconstruction of the references that is not suggested or motivated by any prior art teaching, and is therefore, improper. See In Re Ratti, 270 F.2d 810, 813 (C.C.P.A. 1959).

III. The Subject Matter of Claims 7 and 21 Is Not Obvious Under 35 U.S.C. § 103(a) Over Nagano In View of Miike and Further in View of Seimitsu

The Examiner has rejected claims 7 and 21 as obvious over Nagano in view of Miike and further in view of Seimitsu. Claims 7 and 21 depend from claims 6 and 20, respectively, and they further recite the attachment of the claimed switch in the switch mounting recess by an adhesive. The Examiner has applied the combination of Nagano and Miike in the same manner described above for claims 1, 6, 9-11, 13, 17, 20, 23-25 and 27. As such, claims 7 and 21 are allowable for the same reasons that claims 6 and 20 are allowable over the prior art of record.

The rejection is further improper because Seimitsu is non-analogous art, and its combination with Nagano and Miike is not motivated or suggested by the prior art. Seimitsu is a Japanese Patent Application, for which the Examiner has supplied an English-language abstract. According to the Examiner, Seimitsu "teaches using an adhesive to attach a portable clock to a fixed base." 11/20/03 O.A. at 4. She further asserts that "it would have been obvious to one of ordinary skill in the art at the time the invention was made to attach the control switch to the switch mounting recess using an adhesive so as to provide a secure connection between the switch and recess." Id.

First, Seimitsu is non-analogous art. "In order to rely on a reference as a basis for rejection of the applicant's invention, the reference must either be in the field of the applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." In Re Oetiker, 977 F.2d 1443, 1447 (Fed. Cir. 1992). Seimitsu concerns the use of an adhesive to fix a vibration damper to a transparent base used in the liquid crystal panel of electronic devices such as a clock and telephone. It does not address control switches or techniques for mounting or attaching them. Thus, combining Seimitsu with Nagano and Miike is improper on that basis as well.

Second, the disclosures of Nagano and Miike belie the Examiner's obviousness contention. The Examiner contends that "using an adhesive to attach one member to another is old and well known in the art . . . . " 11/20/03 O.A. 4 (emphasis added). However, neither Nagano nor Miike suggest the desirability of using an adhesive to attach their respective switches to a switch mounting recess. If the prior art had in fact disclosed the desirability of using an adhesive to attach a control switch in a switch mounting recess, Nagano and Miike would have made use of the technique as well. However, they did not, further demonstrating that the Examiner is selectively extracting individual elements of the claimed invention from the prior art, without any basis in the prior art for doing so.

IV. The Subject Matter of Claims 8-9 and 22 Is Not Obvious Under 35 U.S.C. § 103(a) Over Nagano In View of Miike and Further in View of Miyoshi

The Examiner has rejected claims 8-9 and 22 as obvious based on the combination of Miike, Nagano and Miyoshi and has again indicated that the combination of Nagano and Miike applies in the same manner as for Claims 1, 6, 9-11, 13, 17, 20, 23-25 and 27. The rejection is improper because the combined references do not teach all of the claim limitations and because there is no motivation or suggestion in the prior art for combining them.

A. Nagano, Miike and Miyoshi Do Not Teach or Suggest the Claimed Invention

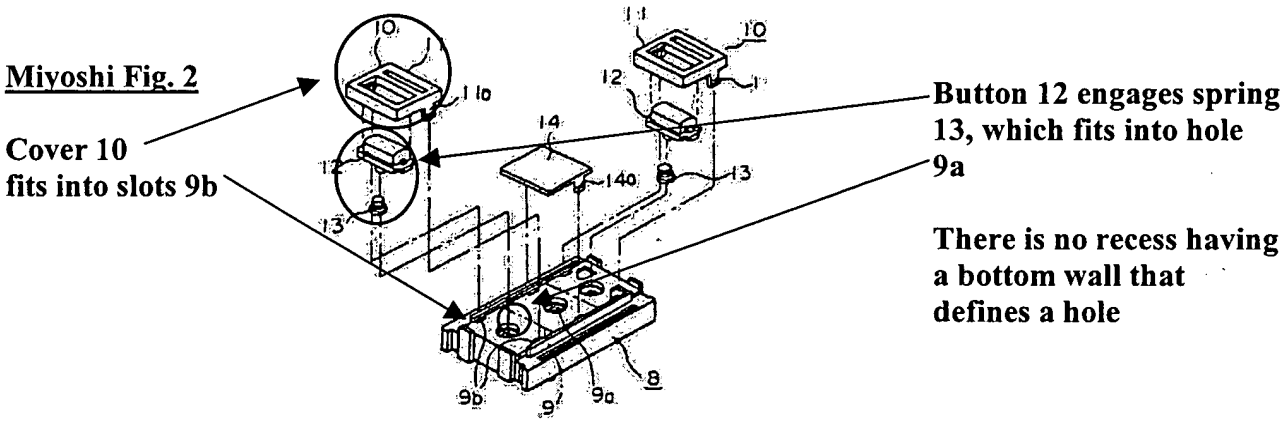
Claims 8 and 22 depend from Claims 6 and 20, respectively, and further recite a hole in the bottom surface of the switch mounting recess and an elastic attachment arm on the operation control button, wherein the attachment arm is press fitted into the hole. Claim 9 depends from Claim 6 and further recites an elastic outer cover that is press fitted into the switch mounting recess. Thus, claims 8-9 and 22 are allowable for the same reasons that claims 6 and 20 are allowable over the prior art.

In addition, Miyoshi cannot be combined with Nagano and Miike to obtain the elastic arm attachment feature recited in claims 8 and 22. Miyoshi is a Japanese Patent Application for which the Examiner has provided an English-language abstract. According to the Examiner, Miyoshi discloses a "switch mounting recess defining a hole (9a, b) therein, the control switch 12 having an attachment arm 13 made of an elastic material, wherein the attachment arm is press-fitted into the hole of the switch mounting recess." Contrary to the Examiner's assertion, Miyoshi discloses a button 12 that engages a spring 13. The spring 13 is not an "attachment arm" of the button 12, as the Examiner contends. Spring 13 appears to extend into hole 9a. However, the abstract does not describe the arrangement Moreover, nothing in the reference indicates that spring 13 is elastic, and claims 8 and 22 require an elastic attachment arm.

The Examiner's strategy of using hindsight to selectively pick claim elements from the prior art is clearly revealed by the assertion of Miyoshi. The Examiner indicates that holes 9a and 9b are a "switch mounting recess defining a hole." However, claims 8 and 22 require a switch mounting recess that defines a bottom wall and which comprises a bottom surface defining a hole therein. At most, Miyoshi shows a hole. It does not, however, show the claimed structure of a recess having a bottom surface defining a hole. Moreover, Miyoshi does

not disclose a recess that conforms to the shape of the outer periphery of a control button, as required by the rejected claims.

第2図



In rejecting claim 9 based on the combination of Miyoshi, Nagano and Miike, the Examiner asserts that Miyoshi "teaches an elastic cover (10) surrounding the control switch wherein the elastic cover is press-fitted into the recess and in frictional contact with and surrounded by a recess wall . . . ." 11/20/03 O.A. at 5 (emphasis added).[1] A close examination of this contention reveals the Examiner's inconsistent characterization of Miyoshi. The Examiner apparently contends that Miyoshi's cover 11 is the claimed "elastic cover." However, Miyoshi's cover 11 engages hole 9b, not the hole 9a that engages the button 12. Even if the Examiner correctly has characterized hole 9a as a "switch mounting recess," that hole is completely separate from the hole 9b that engages Miyoshi's cover 11. Claim 9 clearly recites an elastic outer cover press fitted into the same switch mounting recess in which the control switch is

[1] Based on the wording of the Examiner's rejections of Claims 8 and 9, it appears that the Examiner may have mistakenly assumed that Claim 9 depends from Claim 8. However, it does not. Claims 8 and 9 each depend from Claim 6.

mounted. Thus, Miyoshi cannot be combined with Nagano and Miike to obtain the invention of claim 9.

B. The Examiner Has Failed to Provide a Motivation Or Suggestion In the Prior Art For Combining Miyoshi, Nagano and Miike

As with the above-described rejections, the Examiner has again failed to demonstrate that the prior art suggested the combination of Miyoshi with Nagano and Miike to obtain the claimed invention. She contends that "it would have been obvious . . so as to provide a more secure and stable form of attachment for the switch device." However, that assertion is completely unsupported. "The factual inquiry whether to combine references . . . must be based on objective evidence of record." In re Sang-Su Lee, 277 F.3d 1338, 1343 (Fed. Cir. 2002). In Sang-Su Lee the Federal Circuit reversed a Board of Patent Appeals and Intereferences finding of obviousness, holding that "[t]his factual question of motivation is material to patentability, and could not be resolved on subjective belief and unknown authority." Id. at 1343-1344. Thus, the rejection is improper on this basis as well.

V. The Subject Matter of Claims 12 and 26 Is Not Obvious Under 35 U.S.C. § 103(a) Over Nagano In View of Miike and Further in View of Hill

The Examiner has rejected claims 12 and 26 as obvious based on the combination of Miike, Nagano and Hill has again indicated that the combination of Nagano and Miike applies in the same manner as for Claims 1, 6, 9-11, 13, 17, 20, 23-25 and 27. The rejection is improper because the references require modifications that are not motivated or suggested by the prior art in order to obtain the claimed invention. Moreover, Hill is non-analogous prior art, and its combination with Nagano and Miike is not motivated or suggested by the prior art.

Claims 12 and 26 depend from claims 11 and 24, and are allowable for the same reasons that claims 11 and 24 are allowable over the prior art. In addition, claims 12 and 26

further recite the threaded engagement of a retention ring in the switch mounting recess. According to the Examiner, Hill "teaches a threaded retention ring used to secure a member (17) within a recess (32)." 11/20/03 O.A. at 5. In support of her rejection, the Examiner asserts that the combination of Hill with Nagano and Miike "would have been obvious . . . so as to provide a secure method of retaining the control switch within the recess that could withstand the rough conditions to which a bicycle might be exposed." Id. at 6.

First, the Examiner's combination of references is improper because it would require extensive alteration of the Miike device to obtain a threadedly engaged retention ring. According to the Examiner, Miike's frame 26 is a retention ring. See 11/20/03 O.A. at 3. However, Miike's frame is square. Thus, it cannot be threadedly engaged in a switch mounting recess without altering its shape. As a result, the combination of the references is improper. See, In Re Ratti, 270 F.2d 810, 813 (C.C.P.A. 1959) (reversing obviousness rejection where the suggested combination of references "would require a substantial reconstruction and redesign of the elements" in the prior art).

Second, the assertion of Hill is improper because it is non-analogous prior art. Hill does not involve control switches, or structures for retaining them within recesses. Instead, it is directed to an electrostatic transducer. The portion of Hill relied upon by the Examiner concerns the threaded engagement of an O-ring retainer 16 in a transducer housing 11 to secure a sleeve 17. Thus, Hill it is non-analogous art, and its assertion against the present application is improper. See In Re Oetiker, 977 F.2d 1443, 1447 (Fed. Cir. 1992).

Third, the Examiner has again failed to show a motivation or suggestion in the prior art for combining Hill with Miike and Nagano. Although the Examiner identifies a benefit of threaded retention ring engagement--i.e., providing a secure method of retaining the control switch within the recess--she has not shown that this was an acknowledged goal in the prior art.

She has merely provided her own unsupported contention that such was the case. See In re Sang-Su Lee, 277 F.3d 1338, 1343 (Fed. Cir. 2002).

VI. The Subject Matter of Claims 18 and 19 is Not Obvious Under 35 U.S.C. § 103(a) Over Nagano in View of Miike and Further in View of Iteya

The Examiner has rejected claims 18 and 19 as obvious based on the combination of Nagano, Miike and Iteya. Claims 18 and 19 recite a control device attached proximal to the hand grip of a handle bar such that the rider's hand can reach the control device while remaining on the handgrip. The control device defines a switch mounting recess in which a control switch is mounted. A cycle computer is attached to the handlebar separate from the control device and a connecting cable electrically connects the control switch to the computer.

First, Iteya is not prior art to the present application, and its assertion is improper. The Iteya reference identifies as its sole inventor Yoshihide Iteya, the sole inventor of the present application. The Examiner has not identified a specific provision of 35 U.S.C. § 102 under which the Iteya Patent constitutes prior art to the present application. However, because the Iteya Patent issued on December 18, 2001, more than ten months after the present application was filed, it is not prior art under 35 U.S.C. § 102(b). Further, because the Iteya Patent and the present application were invented by the same person, the Iteya Patent is not "by another," and therefore, is not prior art under 35 U.S.C. § 102(e). Accordingly, the Iteya Patent is not prior art and should be withdrawn as a reference.

Second, Iteya does not disclose a control switch mounted in a switch mounting recess as claimed. Thus, it does not make up for the deficiencies in Nagano and Miike, and the combined references fail to teach or suggest the claimed control device/switch mounting recess structure.

Third, the Examiner again fails to properly support the combination of the references by identifying a suggestion or motivation in the prior art for combining them. Unlike Iteya, Nagano

teaches a cycle computer that is not separate from the bicycle control device. Thus, the Examiner has assumed that one of ordinary skill would disregard Nagano's combined computer/control device structure in favor of the claimed structure. However, no prior art teaching has been identified which suggests doing so. It is only the present application--and not the prior art--that recognizes the benefits of using the claimed configuration of control switch, control device and cycle computer. "When determining obviousness, the invention must be viewed not with the blueprint drawn by the inventor, but in the state of the art that existed at the time." Diversitech Corp. v. Century Steps, Inc., 850 F.2d 675, 679 (Fed. Cir. 1988). Because the Examiner's application of Nagano, Miike and Iteya is an improper hindsight reconstruction of the present invention, the rejection is improper and should be withdrawn.

Claim 19 additionally requires a cable mounting recess in communication with the switch mounting recess, wherein the cable mounting recess extends from the switch mounting recess in the direction of the cycle computer, and wherein a portion of the connecting cable is mounted in the switch mounting recess. With respect to its recitation of a cable mounting recess, claim 19 is similar to claim 17. Iteya does not disclose a cable mounting recess. Moreover, as explained above with respect to claim 17, the Nagano and Miike devices would require extensive alteration to obtain a cable mounting recess extending from a switch mounting recess. Thus, the claimed cable mounting recess is an additional patentable feature that distinguishes claim 19 from the prior art as well.

CONCLUSION

In view of the foregoing, it is respectfully requested that the rejection of claims 1 and 3-27 be withdrawn and that the claims be allowed.

Respectfully submitted,

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APPENDIX

1. (Previously Amended) A bicycle switch mounting assembly for holding a computer switch, comprising:

a bicycle control device having a top surface, the top surface defining a recess therein, the recess having a bottom wall and a side wall connected to the bottom wall;

an operation control button with an outer periphery having a shape, wherein the operation control button is movable within the recess, wherein the recess has a shape which conforms to the shape of the outer periphery of the operation control button, and wherein the side wall and bottom wall are not printed circuit boards.

2. Cancelled

3. (Previously Amended) A bicycle switch mounting assembly for holding a computer control switch comprising:

a bicycle shift control device having a top surface, the top surface defining a recess therein, the recess having a bottom wall and a side wall connected to the bottom wall;

an operation control button with an outer periphery having a shape, wherein the operation control button is movable within the recess, and wherein the recess is dimensioned to receive the computer control switch and has a shape conforming to the shape of the outer periphery of the operation control button, and wherein the side wall and bottom wall are not printed circuit boards.

4. (Previously Amended) A bicycle switch mounting assembly for holding a computer control switch comprising:

a bicycle brake control device having a top surface, the top surface defining a recess therein, the recess having a bottom wall and a side wall connected to the bottom wall;

an operation control button with an outer periphery having a shape, wherein the operation control button is movable within the recess, and wherein the recess is dimensioned to receive the computer control switch and has a shape conforming to the shape of the outer periphery of the operation control button, and wherein the side wall and bottom wall are not printed circuit boards.

5. (Previously Amended) A control device for holding a computer control switch comprising:

a brake control device;

a shift control device integrated with the brake control device;

a casing encompassing the brake control device and the shift control device, wherein the casing defines a recess therein, the recess having a bottom wall and a side wall connected to the bottom wall; and

an operation control button with an outer periphery having a shape, wherein the operation control button is movable within the recess, and wherein the recess is dimensioned to receive the computer control switch and has a shape conforming to the shape of the outer periphery of the operation control button, and wherein the side wall and bottom wall are not printed circuit boards.

6. (Previously Amended) A bicycle switch assembly, comprising:

a bicycle control device having a casing, the casing defining a switch mounting recess, the recess having a bottom wall and a side wall connected to the bottom wall; and

a control switch mounted in the switch mounting recess, wherein the control switch comprises an operation control button having an outer periphery having a shape, wherein the operation control button is movable within the switch mounting recess, and the switch

mounting recess has a shape conforming to the shape of the outer periphery of the operation control button, and wherein the side wall and bottom wall are not printed circuit boards.

7. (Previously Amended) The bicycle switch assembly of claim 6 wherein the control switch is attached in the switch mounting recess by an adhesive.

8. (Previously Amended) The bicycle switch assembly of claim 6 wherein the switch mounting recess comprises a bottom surface and the bottom surface defines a hole therein, the operation control button having an attachment arm made of an elastic material, wherein the attachment arm is press fitted into the hole of the switch mounting recess.

9. (Previously Amended) The bicycle switch assembly of claim 6 further comprising an elastic outer cover at least partially surrounding the control switch wherein the elastic outer cover is press fitted into the switch mounting recess.

10. (Previously Amended) The bicycle switch assembly of claim 6 further comprising a retention ring configured to restrict the movement of the control switch.

11. (Previously Amended) The bicycle switch assembly of claim 10 wherein the retention ring is fastened to the casing.

12. (Previously Amended) The bicycle switch assembly of claim 11 wherein the retention ring is threadingly engaged with the switch mounting recess.

13. (Previously Amended) A bicycle control assembly for holding a control switch for a computer, the control switch having an operation control button with an outer periphery having a shape, the bicycle control assembly comprising:

a bicycle control device having a casing defining a switch mounting recess therein, the recess having a bottom wall and a side wall connected to the bottom wall, wherein the side wall and bottom wall are not printed circuit boards;

wherein the switch mounting recess is dimensioned to receive the control switch and has a shape conforming to the shape of the outer periphery of the operation control button, and

wherein the operation control button is movable with the switch mounting recess.

14. (Original) The bicycle control assembly of claim 13 wherein the control device comprises a shift control device.

15. (Original) The bicycle control assembly of claim 13 wherein the control device comprises a brake control device.

16. (Original) The bicycle control assembly of claim 13 wherein the control device comprises a shift control device and a brake control device.

17. (Original) The bicycle control assembly of claim 13 wherein the casing defines a cable mounting recess therein, the cable mounting recess is in communication with the switch mounting recess and extending from the switch mounting recess.

18. (Previously Amended) A handlebar assembly controllable by the hand of a bicycle rider, comprising:

a handlebar having an end;

a hand grip attached to the end of the handlebar;

a bicycle control device attached to the handlebar proximal the hand grip such that the rider's hand can reach the control device while remaining on the hand grip, the bicycle control device defining a switch mounting recess therein, the recess having a bottom wall and a side wall connected to the bottom wall, wherein the side wall and bottom wall are not printed circuit boards;

a control switch mounted in the switch mounted recess of the control device, wherein the control switch comprises an operation control button having an outer periphery having a shape and the switch mounting recess has a shape conforming to the shape of the outer periphery of the operation control button, and wherein the operation control button is movable within the switch mounting recess;

a cycle computer attached to the handlebar, separate from the bicycle control device; and

a connecting cable electrically connecting the control switch to the cycle computer.

19. (Original) The handlebar assembly of claim 18, wherein the control device further defines a cable mounting recess therein in communication with the switch mounting recess, wherein the cable mounting recess extends from the switch mounting recess in the direction of the cycle computer, and wherein a portion of the connecting cable is mounted in the cable mounting recess.

20. (Previously Amended) A method of installing a control switch having an operation control button with an outer periphery having a shape, comprising the steps of:

providing a control switch and a bicycle control device having a top surface, the top surface defining a switch mounting recess therein, wherein the switch mounting recess comprises a bottom wall and a side wall connected to the bottom wall, wherein the side wall and bottom wall are not printed circuit boards, wherein the switch mounting recess is dimensioned to receive the control switch and has a shape conforming to the outer periphery of the operation control button, and wherein the operation control button is movable within the switch mounting recess; and

securing the control switch in the switch mounting recess.

21. (Original) The method of claim 20 wherein the step of securing the control switch comprises adhesively attaching the control switch to the switch mounting recess.

22. (Original) The method of claim 20 further comprising the steps of:

providing an attachment arm connected to the control switch, wherein the attachment arm comprises an elastic material;

providing a bottom surface of the switch mounting recess, wherein the bottom surface defines a hole therein; and

press fitting the elastic material into the hole in the bottom surface of the switch mounting recess.

23. (Original) The method of claim 20 further comprising the steps of:

providing an elastic outer cover surrounding the control switch; and

press fitting the elastic outer cover into the switch mounting recess.

24. (Original) The method of claim 20 further comprising the steps of:

providing a retention ring; and

attaching the retention ring to the control device in a manner that restricts the movement of the control switch.

25. (Original) The method of claim 24 wherein the step of attaching the retention ring to the control device includes fastening the retaining ring to a top surface of the control device.

26. (Original) The method of claim 24 wherein the step of attaching the retention ring to the control device includes threadingly engaging the ring with the switch mounting recess.

27. (Previously Amended) The bicycle switch assembly of claim 9 wherein the elastic outer cover is in frictional contact with and surrounded by a recess wall.